

Sydney Ring South

Project Assessment Draft Report

Community summary

Why is Sydney Ring South needed?

The Sydney, Newcastle, and Wollongong region currently accounts for 75% of energy demand in NSW – a share that continues to grow as homes and businesses electrify. By 2041, the region’s population is projected to reach 8.1 million people, all of whom will rely on electricity to power their lives.

Coal is closing. For many years, most of NSW’s electricity has come from large coal-fired power stations in the Hunter Valley and Central Coast. These plants are close to Sydney and, as such, were relatively easy to connect to the electricity network. As coal-fired power stations progressively retire over the next 15 years, NSW will depend increasingly on renewable energy sourced from regional NSW and interstate. The existing network into Sydney from the south relies on just three single-circuit 330 kV transmission lines – a significant bottleneck that will limit how much lower-cost renewable energy can reach Sydney, Newcastle, and Wollongong.

In short, we need to increase energy capacity to power the future needs of the region.

Growing demand

Sydney, Newcastle and Wollongong are home to +6 million (forecast to be +8 million by 2041) who rely on secure, affordable electricity every day

These cities account for ~75% of electricity demand in NSW

Historically powered by coal with next retirement from 2029



Sydney Ring South is needed to:



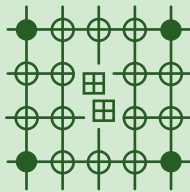
Secure diverse and abundant renewable energy supply

Give consumers better access to lower-cost, cleaner energy. In particular, it will accelerate access to cheaper and cleaner renewable energy within South West Renewable Energy Zone.



Help power the energy transition

Support the shift to cleaner, more affordable energy to power increasing electrification of transport and industry without compromising reliability.



Power economic growth through decarbonisation

Stable supply increases resilience in peak demand periods, reducing reliance on limited gas supply and uncertain capacity developments (offshore wind).



Increase long-term capacity to meet NSW energy needs

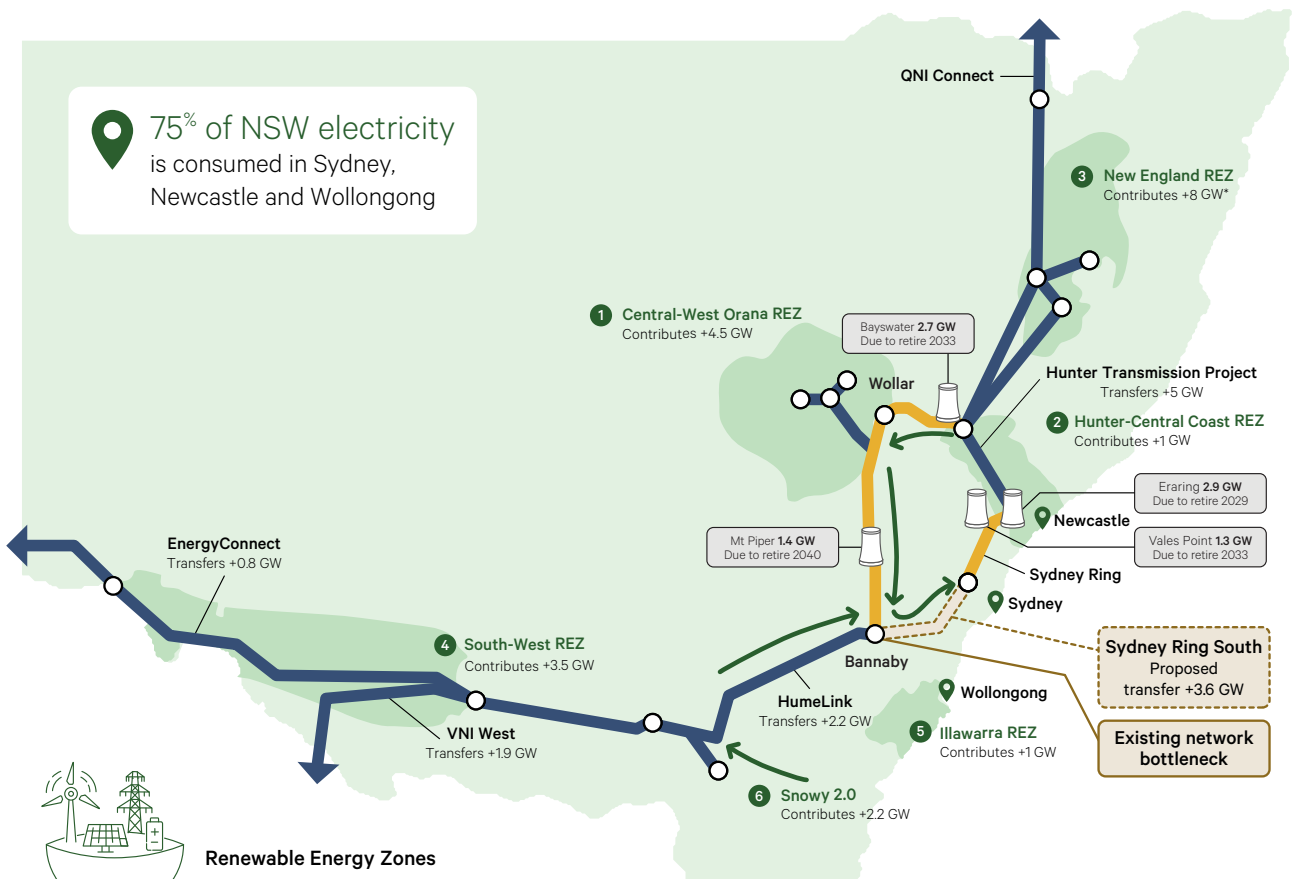
Maximises the value and operational efficiency of large investments in Renewable Energy Zones, Snowy 2.0 and storage, ensuring the grid can send cheaper, clean energy to where consumers need it.

Addressing a network need

The Australian Energy Market Operator (AEMO) – the organisation responsible for ensuring Australia's electricity and gas markets keep running reliably - has identified a bottleneck in the energy system to South Western Sydney, which must be addressed to support the region's long-term energy needs. The energy need was most recently outlined in the [AEMO 2026 Draft Integrated System Plan](#), which found that if left unaddressed, the bottleneck risks placing upward pressure on electricity costs and constraining future economic growth across South Western Sydney and the Illawarra.

AEMO has asked Transgrid to conduct a detailed assessment of options to strengthen the network and increase energy flow into the region. As a result, Transgrid has conducted an assessment as per its regulatory requirements and produced a Project Assessment Draft Report (PADR).

75% of NSW electricity is consumed in Sydney, Newcastle and Wollongong



Renewable Energy Zones

1 Central-West Orana REZ	2 Hunter-Central Coast REZ	3 New England REZ	4 South-West REZ	5 Illawarra REZ	6 Snowy 2.0
Contributes +4.5 GW From 2028 • Wind • Solar • Battery • Pumped hydro • Transmission	Contributes +1 GW From 2028 • Network upgrades • Wind • Solar • Battery	Contributes +8 GW* 6 GW from 2034 • Wind • Solar • Battery • Transmission	Contributes +3.5 GW • Wind • Solar • Battery • Transmission	Contributes +1 GW From 2028 • Solar • Battery • Network upgrades	Contributes +2.2 GW From 2028 • Hydro • Transmission



Coal power stations

Eraring	Vales Point	Bayswater	Mt Piper
-2.9 GW exits 2029	-1.3 GW exits 2033	-2.7 GW exits 2033	-1.4 GW exits 2040

— Existing transmission
— In construction/development
→ Indicative power flow
○ Substations
● Renewable Energy Zone

*Intended.

What is a PADR?

A Project Assessment Draft Report (PADR) is published in the early planning stages of a proposed project to test different credible engineering options against a set of economic criteria set by the Australian Energy Regulator. Through the report, options are ranked according to their net present value of overall benefits to electricity producers and consumers. Stakeholders are invited to make submissions on the outcomes of the PADR and the assessment of options that Transgrid has undertaken. These submissions will be considered by Transgrid before a Project Assessment Conclusions Report (PACR) is published (planned for mid-2027) which outlines a preferred engineering solution to meet the long-term energy needs of the region.

At this stage of the planning process, no corridor, route or preferred technology has been decided, and the final engineering solution remains open. No final decision on a preferred option has been made.

What options have been assessed?

The PADR has assessed six different options for strengthening the electricity network. Options range from smaller upgrades to the existing network, through to building a new high-capacity transmission line between Bannaby in the Southern Tablelands and South Western Sydney. We also considered two non-network alternatives involving large-scale battery storage projects proposed by private companies. However, these were not found to provide a credible alternative to increase the energy system's capacity to support Sydney, Newcastle and Wollongong into the future.

A table showing the outcomes of the six options assessed can be found on page 9 of the PADR on our [SRS webpage](#) on the Transgrid website.

How each option performed

Of the six options assessed, four performed similarly well in the economic analysis. All four of these options plan the delivery of a new 500kV transmission line by the mid-2030s. The key differences between these options relate to technical design and staging options, including how the line would initially operate and what additional infrastructure would be required.

A new 500 kV line between Bannaby in the Southern Tablelands and South Western Sydney, is currently identified as the preferred option because it can best support NSW energy consumers' long-term needs for secure, reliable and affordable energy at the lowest, most efficient cost. Importantly, it delivers the greatest benefit to

NSW consumers and the broader economy. This option also performs best in scenarios where electricity demand grows faster than expected, including increased demand from data centres and the increasing electrification of homes, transport and industry.

For NSW energy consumers, we estimate savings of approximately \$3,200 million for building and operating a new 500 kV line compared to an alternative solution that relies on a mix of generation and storage investments.

Although no routes have been selected, if this option was to materialise, it would effectively connect Bannaby and Western Sydney (potentially South Creek or Kemps Creek), a distance of more than 100km, through a mix of rural, industrial and urban areas.

Is undergrounding being considered?

In line with the regulatory guidelines, initial cost estimates are primarily based on the lowest-cost options to minimise financial impacts to consumers. The overhead line design is typically lower cost than undergrounding, as it is significantly more technically complex, costing up to seven times more per kilometre than an overhead design. However, Transgrid acknowledges strong community interest in undergrounding, and as such we have considered the potential for partial undergrounding in the PADR assessment.



Benefits

Electricity bill relief

We estimate that during its first decade of full operation, Sydney Ring South will help lower average household electricity bills in NSW by up to \$51 per year, and lower average small business electricity bills by around \$110 per year, compared to if the project did not proceed. It will do this by enabling access to abundant, lower-cost renewable energy that will be generated in Renewable Energy Zones across NSW and interstate, which in turn is expected to reduce wholesale electricity prices in NSW.

A stronger, more resilient network for future generations

In addition to providing access to lower cost energy, the project would strengthen the resilience and reliability of the electricity system as NSW transitions away from coal, enabling power to be drawn from a broader mix of renewable sources, batteries and interstate connections.

Engagement in coming months

We are at the start of a long-term conversation to plan for a strong, resilient, lower-cost network solution. Genuine engagement will be critical to arriving at the right solution to meet the region's growing needs and consumer expectations.

We are seeking your involvement in shaping this project solution and will be conducting broad and inclusive engagement with our stakeholders over an extended

period to allow you to hear from our subject matter experts. This includes webinars and briefings for consumers, community groups, consumer advocates, First Nations representatives, industry, local councils and MPs. Consumer focus groups and stakeholder reference groups are being established to ensure local priorities and perspectives are reflected in the ongoing development and assessment of options. As the project progresses through this planning stage, we will continue to keep you updated with publicly accessible information across multiple channels. An overview of our *Stakeholder Engagement Plan for Sydney Ring South PADR* can be found [here](#).

How to make a submission

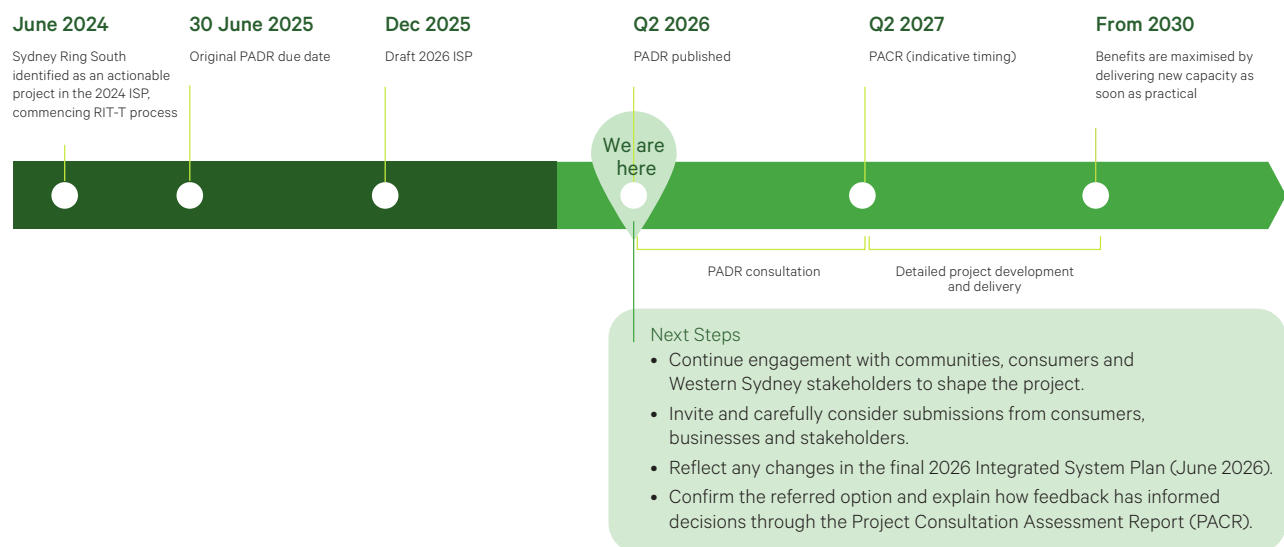
We encourage you to participate in the planning process and make a written submission to help inform this important aspect of the NSW electricity system.

All feedback is welcome. While the formal process focuses on costs and benefits, we recognise that community concerns about affordability, reliability, environmental, social and cultural impacts are equally important.

Because this is a large and complex project, additional time has been provided for engagement and feedback.

Submissions close on 28 August 2026, and can be sent to srs@transgrid.com.au. We will also take on board feedback provided during briefings and community forums. Unless you request otherwise, submissions will be published on both Transgrid's and AEMO's websites.

Next steps



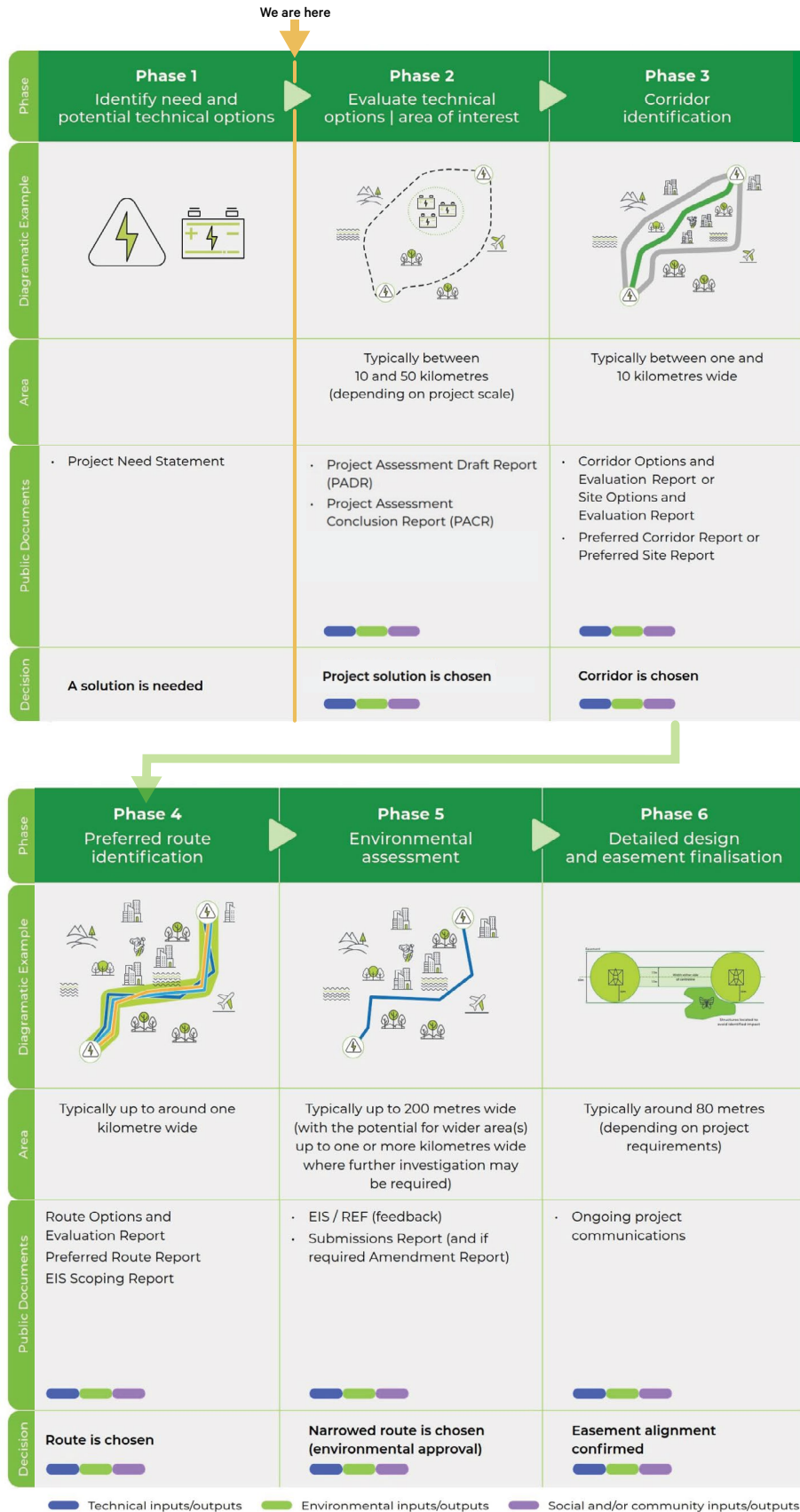
Following the PADR, the next step will be the Project Assessment Conclusions Report (PACR). This report will consider all feedback received in the PADR consultation

program and confirm the final preferred technical option for Sydney Ring South. It will also include updated analysis from AEMO's final 2026 Integrated System Plan.

Route development

A formal route development process will commence if the preferred option of the PACR includes the connection between Bannaby and Greater Western Sydney. The completion of the PACR is not expected before mid-2027.

Should this occur, Transgrid would follow its comprehensive and highly-consultative route development guidelines to assess potential corridors and routes. The process would involve extensive community and stakeholder engagement and balance engineering, social, heritage, and environmental constraints and costs. A snapshot of the process is below.



Contact us

For more information or to get involved, please contact our team at srs@transgrid.com.au or call our free hotline on 1800 222 537.



If you would like the assistance of an interpreter, please call 131 450 and our translation service can assist with your call to our hotline 1800 222 537.

